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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/940,903	08/28/2001	Peter Kamvysselis	EMS-02001	5153
26339	7590	04/22/2005	EXAMINER	
			SHINGLES, KRISTIE D	
			ART UNIT	PAPER NUMBER
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DATE MAILED: 04/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/940,903	KAMVYSELIS, PETER	
	Examiner Kristie Shingles	Art Unit 2141	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 14 January 2005.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 3-6,9,10,25-28,32-35,37-39,54-57,59-61,63-71 and 74-91 is/are pending in the application.
 4a) Of the above claim(s) 1,2,7,8,11-24,29-31,36,40-53,58 and 62 is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 3-6,9,10,25-28,32-35,37-39,54-57,59-61,63-71 and 74-91 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 14 January 2005 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____

DETAILED ACTION

Response to Amendment

Claims 3, 4, 6, 9, 10, 25, 26, 28, 32, 33, 37, 39, 54, 55, 57, 59 and 61 have been amended.

Claims 1, 2, 7, 8, 11-24, 29-31, 36, 40-53, 58 and 62 are cancelled.

Claims 63-71 and 74-91 are new.

Claims 3-6, 9, 10, 25-28, 32-35, 37-39, 54-57, 59-61, 63-71 and 74-91 are pending.

Drawings & Specification

1. The proposed specification corrections for conformity with the drawings filed on 1/14/2005 have been accepted by the Examiner. The corrections to the drawings will not be held in abeyance and the objection is withdrawn.

Response to Arguments

2. Applicant's arguments with respect to claims 1-62 filed on 1/14/2005 have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

3. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claims 74 and 75 have been renumbered 72 and 73, respectively. The renumbering scheme will affect claims 74-91 renumbered as claims 72-89, notation is provided indicating the misnumbered claim in brackets ("[]") with the renumbered claim number. Claims 32 and 54 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend on a succeeding independent claim, as presented, claim 32 depends on independent claim 33 and claim 54 depends on independent claim 55. See MPEP § 608.01(n). Correction is required.

Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claims 25, 26-28, 55-61 and 81[83]-89[91] are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. A “computer program product” per se, is not statutory subject matter unless implemented on a computer-readable medium.

In order to expedite a comprehensive examination of the instant application, the claims rejected under 35 U.S.C. 101 (non-statutory) above, are further rejected as set forth below in anticipation of applicant amending these claims to place them within the admissible statutory categories of invention.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for

patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. **Claims 3 and 25** are rejected under 35 U.S.C. 102(e) as being anticipated by *Fair* (USPN 6,718,481).

a. **Per claims 3 and 25**, *Fair* teaches a method of transmitting data from a source to a destination, comprising:

- receiving data from the source (col.6 lines 40-57); and
- providing the data to the destination using a network, wherein the data is acknowledged to the source as being successfully received at the destination prior to all of the data being provided to the network, wherein at least one of the destination and the source is a storage device (col.6 line 58-col.7 line 64; system incorporates use of acknowledgements of successful data receipt from the receiving storage processor prior to data being sent to the network client).

9. **Claims 32, 33, 37, 54, 55, 59, 63, 64, 68, 72[74], 73[75], 77[79], 81[83], 82[84]** and **86[88]** are rejected under 35 U.S.C. 102(e) as being anticipated by *Yanai et al* (USPN 6,502,205).

a. **Per claims 33, 55, 63, 72[74] and 81[83]**, *Yanai et al* teach a method of transferring data from a first storage device to a second storage device, comprising;

- synchronously transferring the data from the first storage device to a first buffer device (Abstract and col.7 line 48-col.8 line 38; in the dual data storage system data may be synchronously transferred between the host and storage volumes/buffers);
- asynchronously transferring the data from the first buffer device to a second buffer device (Abstract, col.8 line 39-col.9 line 8, col.9 line 59-col.10 line 14 and col.10 line 59-col.11 line 10; data may be asynchronously transmitted to the secondary storage system); and
- synchronously transferring the data from the second buffer device to the second storage device, wherein the first buffer device acknowledges successful transfer of the data to the first storage device prior to the first buffer device completing

transfer of the data to the second buffer device (Figure 21, col.9 line 5-col.10 line 58, col.11 lines 20-57, col.15 line 55-col.16 line 26, col.17 line 41-col.19 line 11, col.32 line 59-col.33 line 10, col.33 line 43-col.34 line 36, col.41 lines 19-56 and col.60 line 35-col.61 line 4; data may be synchronously transmitted to the secondary storage and receipt acknowledgement signifying a successful transfer).

- providing the data from the first buffer device to the second buffer device using a network, wherein the data is provided from the first storage device in a first format and is provided to the network in a second network that is different from the first format (col.8 lines 24-38, col.10 lines 15-28, col.11 lines 20-57, col.15 line 55-col.16 line 26, col.17 line 41-col.19 line 11, col.32 line 59-col.33 line 10, col.33 line 43-col.34 line 36, col.41 lines 19-56 and col.60 line 35-col.61 line 4; data is capable of being transmitted from the first storage device to the secondary storage device via a network; primary storage system acknowledges successful transmission of data to the primary host computer before all of the data is sent to the network, a pending format change is indicated and maintained when transmitting between the two storage devices).

b. **Per claims 32 and 54**, *Yanai et al* teach the method of claim 33 and 55, respectively, wherein the first buffer device acknowledges successful transfer of the data to the first storage device prior to all of the data being provided to the network (col.10 lines 15-28; primary storage system acknowledges successful transmission of data to the primary host computer before all of the data is sent to the network).

c. **Per claims 37**, *Yanai et al* teach the method of claim 33, wherein the second storage device receives the data in a first format different from a second format used to transmit the data over the network (col.11 lines 20-57; a pending format change is indicated and maintained when transmitting between the two storage devices).

d. **Claims 59, 64, 68, 73[75], 77[79], 82[84] and 86[88]** are substantially similar to claim 37 and are therefore rejected under the same basis.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims **4 and 26** are rejected under 35 U.S.C. 103(a) as being unpatentable over *Williams et al* (USPN 6,721,286) in view of *Yanai et al* (USPN 6,502,205).

a. **Per claim 4**, *Williams et al* teach the method of transmitting data from a source to a destination, comprising: receiving data from the source (col.1 lines 32-44), wherein the data is provided from the source in a first format and is provided to the network in a second format and is received by the destination in a third format, wherein the second format is different from at least one of: the first format and the second format (col.1 lines 45-55, col.5 lines 26-66 and col.8 lines 12-42).

Yet, *Williams et al* fail to explicitly teach providing the data to the destination using a network, wherein the data is acknowledged to the source as being successfully received at the destination prior to all of the data being provided to the network. However, *Yanai et al* disclose a primary storage system that acknowledges successful transmission of data to the primary host computer before all of the data is sent to the network (col.8 lines 24-38, col.10 lines 15-28, col.11 lines 20-57, col.15 line 55-col.16 line 26, col.17 line 41-col.19 line 11, col.32 line 59-col.33 line 10, col.33 line 43-col.34 line 36, col.41 lines 19-56 and col.60 line 35-col.61 line 4). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of *Williams et al* and *Yanai et al* for the purpose of permitting an

acknowledgment message to be sent before all of the data have been transmitted to the network; because it would provide a quicker response time in anticipation of all the data being transferred to the network.

b. **Claim 26** contains limitations that are substantially equivalent to claim 4 and is therefore rejected under the same basis.

12. Claims 5, 6, 9, 10, 27, 28, 34, 35, 38, 39, 56, 57, 60, 61, 65, 66, 67, 69, 70, 71, 74[76], 75[77], 76[78], 78[80], 79[81], 80[82], 83[85], 84[86], 85[87], 87[89], 88[90] and 89[91] are rejected under 35 U.S.C. 103(a) as being unpatentable over *Williams et al* (USPN 6,721,286) and *Yanai et al* (USPN 6,502,205), in view of Applicant's Admitted Prior Art (hereafter referred to as *AAPA*).

a. **Per claim 5**, *Williams et al* and *Yanai et al* teach the method of claim 4 as applied above, yet fail to distinctly teach the first format being RDF format. However, in *AAPA* discloses use of the RDF format when transmitting data from a storage device to a host (page 2 line 4-page 3 line 14).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of *Williams et al*, *Yanai et al* and *AAPA* for the purpose of employing communication with remote data facilities (RDF); because it would permit connecting and communication among storage devices in order to implement a redundant data mirroring system.

b. **Claims 9, 27, 34, 38, 56, 60, 65, 69, 74[76], 78[80], 83[85] and 87[89]** are substantially similar to claim 5 and are therefore rejected under the same basis.

c. **Per claim 6, Williams et al, Yanai et al, and AAPA** teach the method of claim 5 as applied above—Williams et al further teaches the method wherein the second format is one of TCP/IP and UDP. (col.11 lines 6-17, col.12 lines 41-55, col.13 line 55-col.14 line 59 and col.16 lines 2-12 and col.18 lines 17-24).

d. **Claims 10, 28, 35, 39, 57, 61, 66, 67, 70, 71, 75[77], 76[78], 79[81], 80[82], 84[86], 85[87], 88[90] and 89[91]** are substantially similar to claim 6 and are therefore rejected under the same basis.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. *Black* (USPN 6,760,828) discloses a method and apparatus for using logical volume identifiers for tracking or identifying logical volume stored in the storage system.
- b. *Yanai et al* (USPN 5,742,792) disclose remote data mirroring.
- c. *Lewis* (USPN 6,442,169) discloses a system and method for bypassing data from egress facilities.

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kristie Shingles whose telephone number is 571-272-3888. The examiner can normally be reached on Monday-Friday 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rupal Dharia can be reached on 571-272-3880. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kristie Shingles
Examiner
Art Unit 2141

kds



RUPAL DHARIA
SUPERVISORY PATENT EXAMINER